

FILE 'HOME' ENTERED AT 13:07:10 ON 05 FEB 2004

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=> e biosis medline caplus wpids uspatfull
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
The EXPAND command is used to look at the index in a file
which has an index.  This file does not have an index.
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CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,  
TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,  
NE, SN, TD, TG

US 2003113940 A1 20030619 US 2002-197080 20020716

PRAI US 2001-305929P A2 20010716

US 2002-371023P A2 20020408

AB This invention provides two compns. The first composition comprises a nanotube and at least one anti-nanotube antibody, wherein the anti-nanotube antibody is bound to the nanotube. The second composition comprises a fullerene and at least one anti-fullerene antibody, wherein the anti-fullerene antibody is bound to the fullerene. Finally, this invention provides methods and kits relating to the antibody and compns. of matter.

L3 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2001:866165 CAPLUS

DN 136:147154

TI **DNA**-cleavage by fullerene-based synzymes

AU Samal, Shashadhar; Geckeler, Kurt E.

CS Laboratory of Applied Macromolecular Chemistry, Department of Materials Science and Engineering, Kwangju Institute of Science and Technology, Kwangju, 500-712, S. Korea

SO Macromolecular Bioscience (2001), 1(8), 329-331 Published in:  
Macromol. Chem. Phys., 202(16)  
CODEN: MBAIBU; ISSN: 1616-5187

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Efficient cleaving of **DNA** oligonucleotides by a water-soluble **fullerene** main-chain polymer is demonstrated following a facile routine of monitoring the reaction by UV-vis spectroscopy and separating the cleaved fractions by membrane filtration. A small quantity of the fullerene derivative could cleave a large excess of the oligonucleotide under ambient light conditions, leading to cleaved **DNA** in quant. yields.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:812109 CAPLUS

DN 130:168595

TI On the Mechanism of **DNA** Cleavage by Fullerenes Investigated in Model Systems: Electron Transfer from Guanosine and 8-Oxo-Guanosine Derivatives to C60

AU Bernstein, Robert; Prat, Ferran; Foote, Christopher S.

CS Department of Chemistry Biochemistry, University of California, Los Angeles, CA, 90095-1569, USA

SO Journal of the American Chemical Society (1999), 121(2), 464-465  
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

AB Fullerenes and dihydro-fullerenes are electron-poor photosensitizers, and **DNA** photo-cleavage (selective for G) mediated by these compds. has been reported. Two possible mechanisms, involving electron transfer from

G to fullerene (type 1), or singlet oxygen (102) generated by the fullerene as the active oxidant (type 2), have been proposed. The authors report the first detection of electron transfer from a guanosine derivative to C60, and show that an 8-oxo-guanosine derivative is far more reactive under the same conditions. They conclude that, for an isolated G in a DNA strand, type 2 oxidation is the expected mechanism, while for GG stacks, the most likely mechanism is type 1.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1994:158195 CAPLUS  
DN 120:158195  
TI Fullerene-coated surfaces and cell-culture uses thereof  
IN Richmond, Robert C.; Gibson, Ursula J.  
PA Trustees of Dartmouth College, USA  
SO PCT Int. Appl., 52 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9400552	A1	19940106	WO 1993-US5680	19930614
	W: CA, JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5310669	A	19940510	US 1992-901911	19920622
PRAI	US 1992-901911		19920622		

AB Substrates having a surface coated with fullerene and a substance attached thereto are disclosed. Cell culture substrates having a fullerene-coated surface are useful in methods of growing cells on the fullerene-coated surface. Methods of preparing cell culture substrates for cell attachment and growth by coating a surface with fullerene are provided. Cells can be grown on a fullerene-coated surface in the presence of a substance such as a cytokine, growth hormone or a drug, to evaluate the interaction between the substance and the cells. Methods for increasing cell membrane permeability and for introducing a substance, such as a DNA or RNA vector, into a cell are also provided. The methodol. of the invention was applied to CHO cell culture.

L3 ANSWER 5 OF 7 USPATFULL on STN  
AN 2002:231098 USPATFULL  
TI Methods for the preparation and characterization of multi-substituted fullerenes  
IN Murphy, Randall B., Irvington, NY, United States  
Wilson, Stephen R., Chatham, NJ, United States  
Lu, Quing, Livingston, NJ, United States  
PA Sphere Biosystems, Inc., Chatham, NJ, United States (U.S. corporation)  
PI US 6448412 B1 20020910  
AI US 2000-702144 20001030 (9)  
RLI Division of Ser. No. US 1997-969261, filed on 13 Nov 1997, now patented, Pat. No. US 6162926 Continuation of Ser. No. US 1995-509209, filed on 31 Jul 1995, now abandoned  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Lambkin, Deborah C.  
LREP Williams, Morgan & Amerson, P.C.  
CLMN Number of Claims: 9  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 9 Drawing Page(s)  
LN.CNT 2604  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

09567863

AB The invention is directed to multiply-substituted fullerene derivatives of novel configurations, and methods for their preparation and use. The methods involve the combinatorial synthesis of a library of fullerene derivatives and comprises the steps of forming a mixture of fullerene derivatives by reacting the C.sub.n fullerene with two or more reactive precursor compounds, and removing the unreacted compounds to yield the fullerene derivatives having the desired activity. Methods for the identification and screening of a combinatorial library of fullerenes by .sup.3He-nuclear magnetic resonance and electrospray mass spectrometry to define members with the optimal desired activity are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 6 OF 7 USPATFULL on STN  
AN 2002:130106 USPATFULL  
TI Multiply-substituted fullerenes  
IN Murphy, Randall B., Irvington, NY, United States  
Wilson, Stephen R., Chatham, NJ, United States  
Lu, Quing, Livingston, NJ, United States  
PA C-Sixty, Inc., Toronto, CANADA (non-U.S. corporation)  
PI US 6399785 B1 20020604  
AI US 2000-702143 20001030 (9)  
RLI Continuation of Ser. No. US 1998-969261, filed on 23 Dec 1998, now patented, Pat. No. US 6162926 Continuation of Ser. No. US 1995-509209, filed on 13 Jul 1995, now abandoned  
DT Utility  
FS GRANTED  
EXNAM Primary Examiner: Higel, Floyd D.  
LREP Evans, Esq., Barry, Kramer Levin Naftalis & Frankel, LLP  
CLMN Number of Claims: 1  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 9 Drawing Page(s)  
LN.CNT 2522

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is directed to multiply-substituted fullerene derivatives of novel configurations, and methods for their preparation and use. The methods involve the combinatorial synthesis of a library of fullerene derivatives and comprises the steps of forming a mixture of fullerene derivatives by reacting the C.sub.n fullerene with two or more reactive precursor compounds, and removing the unreacted compounds to yield the fullerene derivatives having the desired activity. Methods for the identification and screening of a combinatorial library of fullerenes by .sup.3He-nuclear magnetic resonance and electrospray mass spectrometry to define members with the optimal desired activity are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L3 ANSWER 7 OF 7 USPATFULL on STN  
AN 2000:171150 USPATFULL  
TI Multi-substituted fullerenes and methods for their preparation and characterization  
IN Murphy, Randall B., Irvington, NY, United States  
Wilson, Stephen R., Chatham, NJ, United States  
Lu, Quing, Livingston, NJ, United States  
PA Sphere Biosystems, Inc., Chatham, NJ, United States (U.S. corporation)  
PI US 6162926 20001219  
AI US 1997-969261 19971113 (8)  
RLI Continuation of Ser. No. US 1997-969261, filed on 13 Nov 1997, now abandoned which is a continuation of Ser. No. US 1995-509209, filed on 31 Jul 1995, now abandoned  
DT Utility  
FS Granted

09567863

EXNAM Primary Examiner: Higel, Floyd D.  
LREP Evans, Esq., BarryKramer Levin Naftalis & Frankel LLP  
CLMN Number of Claims: 12  
ECL Exemplary Claim: 1  
DRWN 14 Drawing Figure(s); 9 Drawing Page(s)  
LN.CNT 2598

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention is directed to multiply-substituted fullerene derivatives of novel configurations, and methods for their preparation and use. The methods involve the combinatorial synthesis of a library of fullerene derivatives and comprises the steps of forming a mixture of fullerene derivatives by reacting the C.sub.n fullerene with two or more reactive precursor compounds, and removing the unreacted compounds to yield the fullerene derivatives having the desired activity. Methods for the identification and screening of a combinatorial library of fullerenes by .sup.3 He-nuclear magnetic resonance and electrospray mass spectrometry to define members with the optimal desired activity are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 13:07:49 ON 05 FEB 2004

L1 201 S FULLERENE (4A) CHAIN?  
L2 0 S L1 AND TRANSFECTION (3A) DNA  
L3 7 S L1 AND DNA

=> s fullerene and transfection (4a) DNA  
L4 9 FULLERENE AND TRANSFECTION (4A) DNA

=> s l4 not l3  
L5 9 L4 NOT L3

=> s l5 and cell?  
L6 8 L5 AND CELL?

=> dup rem l6  
PROCESSING COMPLETED FOR L6  
L7 8 DUP REM L6 (0 DUPLICATES REMOVED)

=> d l7 bib abs 1-8

L7 ANSWER 1 OF 8 USPATFULL on STN  
AN 2003:257441 USPATFULL  
TI Use of buckysome or carbon nanotube for drug delivery  
IN Hirsch, Andreas, Rathsborg, GERMANY, FEDERAL REPUBLIC OF  
Sagman, Uri, Toronto, CANADA  
Wilson, Stephen R., Houston, TX, UNITED STATES  
PI US 2003180491 A1 20030925  
AI US 2003-367646 A1 20030214 (10)  
PRAI US 2002-356856P 20020214 (60)  
DT Utility  
FS APPLICATION  
LREP Raymund F. Eich, Ph.D., Williams, Morgan & Amerson, P.C., Suite 1100,  
10333 Richmond, Houston, TX, 77042  
CLMN Number of Claims: 44  
ECL Exemplary Claim: 1  
DRWN 8 Drawing Page(s)  
LN.CNT 1526  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB Compositions and methods for administering a therapeutic agent to a  
mammal are disclosed. The compositions comprise either (i) vesicles  
comprising an amphiphilic substituted **fullerene**, wherein the  
therapeutic agent is present in the vesicle interior or between layers  
of the vesicle wall, (ii) a substituted **fullerene**, comprising  
a **fullerene** core and a functional moiety, wherein the  
therapeutic agent is associated with the substituted **fullerene**  
, or (iii) carbon nanotubes, wherein the therapeutic agent is covalently  
bonded to the carbon nanotubes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2003:220620 CAPLUS  
DN 138:363267  
TI Water soluble **fullerene** as genetic vector  
AU Isobe, Hiroyuki; Nakamura, Eiichi

09567863

CS Graduate School of Science, University of Tokyo, Japan  
SO Kobunshi (2003), 52(3), 142  
CODEN: KOBUA3; ISSN: 0454-1138  
PB Kobunshi Gakkai  
DT Journal; General Review  
LA Japanese  
AB A review. Development of **fullerene** mols. with two arm moieties that were complementary and electrostatically-interacting structure to DNA mols. and the use of **fullerene** derivative as genetic vector were described. Some evidences showing DNA adduct formation of the **fullerene** derivative observed by atomic force microcopy and transfection into culture **cells** were presented. Transfection efficiency of the **fullerene** system comparative to the conventional methods was discussed.

L7 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:233093 CAPLUS  
DN 136:263081  
TI Preparation of aminohydroxyfullerene and aminoepoxyfullerene derivatives as reagents for DNA compaction  
IN Nakamura, Eiichi; Isobe, Hiroyuki; Tomita, Naoki  
PA Fujisawa Pharmaceutical Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 12 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002088075	A2	20020327	JP 2000-272114	20000907
PRAI	JP 2000-272114		20000907		
OS	MARPAT 136:263081				
GI					

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB The title compds. [I and II; R1 , R2 = (un)substituted hydrocarbyl or NR1R2 = (un)substituted N-containing heterocyclyl], which have excellent amphipathic property and are used for transfection of **cells** by compaction of DNA, are prepared Thus, a solution of 100 mg **fullerene** and 48  $\mu$ L N-methylpiperazine in 50 mL chlorobenzene was irradiated by a W incandescent lamp with stirring to give 99% I (NR1R2 = N-methylpiperazino). Plasmid DNA (pGreen lantern, 5040 bp), 4.0 mM aminoepoxyfullerene derivative, and NIH 3T3 **cells** were incubated for 6 h. An expression efficiency for fluorescent protein (GFP) was 0.003%.

L7 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2002:118551 CAPLUS  
DN 137:164150  
TI Gene operating **fullerene**  
AU Isobe, Hiroyuki  
CS Graduate School of Science, Department of Chemistry, University of Tokyo, Japan  
SO Kagaku (Kyoto, Japan) (2002), 57(2), 33-34  
CODEN: KAKYAU; ISSN: 0451-1964  
PB Kagaku Dojin  
DT Journal; General Review  
LA Japanese  
AB A review. The use of water-soluble **fullerene** derivs. as DNA

vectors was described. The author designed the **fullerene** derivative with two arms of cationic amines through which the mol. bound to two phosphate residues of the double stranded DNA. The **fullerene** mol. had very low DNA-cleaving activity and had the action to co-precipitate

the

bound DNA to form DNA aggregates. The ability of the **fullerene** derivative to introduce transgene to the target **cells** was discussed.

L7 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2001:902293 CAPLUS  
 DN 136:294749  
 TI Synthesis and transfection capability of multi-functionalized **fullerene** polyamine  
 AU Isobe, Hiroyuki; Tomita, Naoki; Jinno, Shigeki; Okayama, Hiroto; Nakamura, Eiichi  
 CS Department of Chemistry, Graduate School of Science, The University of Tokyo, Tokyo, 113-0033, Japan  
 SO Chemistry Letters (2001), (12), 1214-1215  
 CODEN: CMLTAG; ISSN: 0366-7022  
 PB Chemical Society of Japan  
 DT Journal  
 LA English  
 OS CASREACT 136:294749  
 AB A new **fullerene** transfection reagent bearing multiple-functional groups has been synthesized by diastereoselective double cycloaddn. reaction. The highly oxygenated reagent transfers extracellular DNA into mammalian **cells** with an efficiency comparable to that of a nor-analog.  
 RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2002:579895 CAPLUS  
 DN 138:67130  
 TI Small molecules change gene shape  
 AU Nakamura, Eiichi  
 CS Graduate School of Science, University of Tokyo, Japan  
 SO Gendai no Takumi ga Tsukuru Mirai Busshitsu, [Daigaku to Kagaku Kokai Shinpojumu], 15th, Japan, 2001 (2001), 128-139 Publisher: Kubapuro, Tokyo, Japan.  
 CODEN: 69CYEL; ISBN: 4-87805-005-5  
 DT Conference; General Review  
 LA Japanese  
 AB A review. Chemical of fullerenes in their interaction with DNA and their use as genetic vectors were discussed. The efficient synthesis of the fullerenes and their derivs. for developing the DNA carriers with amphipathic natures were described. Structural anal. of **fullerene** C60 mols. interacted with a DNA strand was discussed and the practical application of the DNA-**fullerene** complex to the **DNA** **transfection** into the monkey kidney **cells** was presented.

L7 ANSWER 7 OF 8 USPATFULL on STN  
 AN 95:101121 USPATFULL  
 TI Method for introducing a biological substance into a target  
 IN Fitzpatrick-McElligott, Sandra G., Media, PA, United States  
 Lavin, John G., Swarthmore, PA, United States  
 Rivard, Germain F., Philadelphia, PA, United States  
 Subramoney, Shekhar, Hockessin, DE, United States  
 PA E. I. Du Pont de Nemours and Company, Wilmington, DE, United States  
 (U.S. corporation)  
 PI US 5466587 19951114  
 AI US 1994-315309 19940929 (8)



09567863

RLI Continuation of Ser. No. US 1993-85696, filed on 30 Jun 1993, now abandoned  
DT Utility  
FS Granted  
EXNAM Primary Examiner: Stone, Jacqueline M.; Assistant Examiner: Campbell, Bruce  
CLMN Number of Claims: 3  
ECL Exemplary Claim: 1  
DRWN 9 Drawing Figure(s); 9 Drawing Page(s)  
LN.CNT 910  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
AB A method for introducing a biological substance into a target which utilizes particles having a substantially pure carbonaceous surface to which is associated a biological substance wherein the particles are sufficiently small to penetrate the target without killing the target is described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L7 ANSWER 8 OF 8 WPIDS COPYRIGHT 2004 THOMSON DERWENT on STN  
AN 1994-026193 [03] WPIDS  
DNC C1994-012129  
TI Substrate, especially for **cell** culture, coated with **fullerene** - which induces membrane damage when **cells** are exposed to light and oxygen, e.g. to facilitate **transfection** with **DNA**.  
DC A96 B04 D16  
IN GIBSON, U J; RICHMOND, R C  
PA (DART-N) DARTMOUTH COLLEGE  
CYC 19  
PI WO 9400552 A1 19940106 (199403)\* EN 53p  
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE  
W: CA JP  
US 5310669 A 19940510 (199418) 17p  
ADT WO 9400552 A1 WO 1993-US5680 19930614; US 5310669 A US 1992-901911 19920622  
PRAI US 1992-901911 19920622  
AN 1994-026193 [03] WPIDS  
AB WO 9400552 A UPAB: 19940303  
Substrates comprising a **fullerene** (I)-coated surface with a substance (II) attached to this surface are new. Also new are (1) **cell** culture substrates with a (I)-coated surface; (2) **cell** cultures grown on these substrates, and (3) a solvent for removal of **cells** and tissues from substrates consisting of acidified sulpholane.  
USE/ADVANTAGE - **Cells** grown on these surfaces can be exposed to eight in presence of O2 to increase the permeability of their membranes, i.e. to facilitate introduction of e.g. DNA, RNA, transfecting protein or drug, pref. applied to the **cell** before illumination. The **cells** can also be used to study interactions with cytokines, growth hormones, etc.  
Dwg.0/9  
ABEQ US 5310669 A UPAB: 19940622  
Substrate comprises a **fullerene**-coated surface with a biological substance attached to the **fullerene**-coated surface.\$  
Also claimed is a **cell** culture substrate comprising the **fullerene**.  
USE Used for growing **cells**, increasing **cell** membrane permeability and introducing DNA, RNA and vectors into **cells**.  
Dwg.0/9

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